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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,671	06/21/2006	Yuichiro Shindo	OGOSH55USA	9231
270 7590 08/23/2011 HOWSON & HOWSON LLP 501 OFFICE CENTER DRIVE SUITE 210 FORT WASHINGTON, PA 19034			EXAMINER ROE, JESSEE RANDALL	
			ART UNIT 1733	PAPER NUMBER
			NOTIFICATION DATE 08/23/2011	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@howsonandhowson.com

Office Action Summary**Application No.**

10/596,671

Applicant(s)

SHINDO, YUICHIRO

Examiner

JESSEE ROE

Art Unit

1733

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1,7 and 14-17 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1,7 and 14-17 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-853)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 June 2011 has been entered.

Status of the Claims

Claims 1, 7 and 14-17 are pending wherein claims 1, 7 and 16 are amended and claims 2-6 and 8-13 are canceled.

Status of Previous Rejections

The previous rejection of claims 1, 7 and 14-17 under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al. (US 5,282,946) is withdrawn in view of the Applicant's amendments to claims 1 and 7. The previous rejection of claims 16 and 17 under 35 U.S.C. 103(a) as being unpatentable over Vilensky (US 2,269,497) is withdrawn in view of the Applicant's amendment to claim 1.

Claim Rejections - 35 USC § 112

The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the [fifth paragraph of 35 U.S.C. 112], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Claims 15 and 17 are rejected under 35 U.S.C. 112, fourth paragraph, as failing to properly specify a further limitation of the subject matter of a claim from which it depends.

With respect to the recitation "wherein said Ni-Pt alloy target contains 20 wt% Pt" in claims 15 and 17, the Examiner notes that claims 1 and 7 recite "A Ni-Pt alloy superior in workability consisting of Pt in a content of 0.1 to 20 wt% and unavoidable impurities". Since claims 1 and 7 recite the transitional language "consisting of", which is excludes additional unrecited elements, and claims 15 and 17 recite the transitional language "contains", which does not exclude additional unrecited elements, claims 15 and 17 fail to further limit claims 1 and 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vilensky (US 2,269,497).

In regards to claim 1, Vilensky ('497) discloses a nickel-platinum alloy having 0.5

to 25 weight percent platinum and 75 to 99.5 weight percent nickel (page 1, left column, lines 55-61). The Examiner notes that the amount of platinum in the nickel alloy of Vilensky ('497) overlaps the amount of platinum in the instant invention, which is *prima facie* evidence of obviousness. MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the claimed amount of platinum from the amount disclosed by Vilensky ('497) because Vilensky ('497) discloses the same utility throughout the disclosed ranges.

With respect to the recitation "having a Vickers hardness of 40 to 90" in lines 2-3 of claim 1, the Examiner notes that because Vilensky ('497) discloses a substantially similar composition, this property would be expected. MPEP 2112.01 I.

With respect to the recitations "superior in workability" in line 1 of claim 1 and "having a purity of 99.99% or higher" in line 2 of claim 1, Vilensky ('497) discloses that the alloy that the alloy may be readily worked (pg. 1, left column, lines 37-39 and pg. 2, left column, lines 9-20) and although Vilensky ('497) does not specify the purity of the platinum or the nickel, merely purifying a prior art product would not be sufficient to patentably distinguish from that prior art product. MPEP 2144.04 (VII).

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi et al. (US 6,531,396) alone, or alternatively in view of Segal (US 6,238,494).

In regards to claims 1 and 7, Chi et al. ('396) discloses depositing a nickel/platinum layer on a semiconductor substrate from a sputtering target wherein the nickel/platinum layer (and therefore the sputtering target) has a nickel content between 90 and 99% and a platinum content between 1 and 10% (col. 2). Thus, it would have

been obvious to one of ordinary skill in the art to select a sputtering target having nickel within the range of 90 to 99% and platinum within the range of 1 to 10%, which is *prima facie* evidence of obviousness. MPEP 2144.05 I.

With respect to the recitation "having a purity of 99.99% or higher" in line 2 of claims 1 and 7, Chi et al. ('396) discloses either using a nickel-platinum alloy target and co-sputtering a pure nickel target and a pure platinum target (cols. 1 and 2). Chi et al. ('396), therefore desires only depositing pure materials on the semiconductors. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to only use pure metals to form nickel-platinum sputtering targets that would be used for sputtering on the semiconductors of Chi et al. ('396). MPEP 2144.06 I.

With respect to the recitation "having a Vickers hardness of 40 to 90" in line 4 of claims 1 and 7, since Chi et al. ('396) teaches using pure nickel and pure platinum in the sputtering target, this hardness would be expected. MPEP 2112.01 I. Alternatively, Chi et al. ('396) does not specify the hardness of the alloy sputter target.

Segal ('494) teaches a process that includes melting, casting and rolling metals such as nickel and platinum and alloys thereof in order to provide fine, uniform sputtering target structures that have strong, uniform textures that improve the performance of the sputtering target (cols. 1 and 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the nickel-platinum sputtering target, as disclosed by Chi et al. ('396), by performing a processing schedule that includes

melting, casting and rolling, as disclosed by Segal ('494), in order to provide a sputtering target having a fine, uniform sputtering target structures that has strong, uniform textures that improve the performance of the sputtering target, as disclosed by Segal (cols. 1 and 2).

Since Chi et al. ('396) in view of Segal ('494) discloses the same composition and the same processing, a Vickers hardness of 40 to 90 would be expected.

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi et al. (US 6,531,396) in view of Segal (US 6,238,494).

With respect to the recitation "wherein said Ni-Pt alloy target has a melted, cast and rolled target structure and is without cracks and fractures" in claim 14 and "wherein said Ni-Pt alloy is a melted and cast ingot structure rollable without the formation of cracks and fractures" in claim 16, Chi et al. ('396) discloses depositing a nickel/platinum layer on a semiconductor substrate from a sputtering target wherein the nickel/platinum layer (and therefore the sputtering target) has a nickel content between 90 and 99% and a platinum content between 1 and 10% (col. 2) as set forth above, but Chi et al. ('396) does not specify that the Ni-Pt alloy (target) would have a melted, cast and rolled target structure without cracks and fractures.

Segal ('494) teaches a process that includes melting, casting and rolling metals such as nickel and platinum and alloys thereof from billets (small ingots) in order to provide fine, uniform sputtering target structures that have strong, uniform textures that improve the performance of the sputtering target (cols. 1 and 2).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the nickel-platinum sputtering target, as disclosed by Chi et al. ('396), by performing a processing schedule that includes melting, casting and rolling, as disclosed by Segal ('494), in order to provide a sputtering target having a fine, uniform sputtering target structures that has strong, uniform textures that improve the performance of the sputtering target, as disclosed by Segal (cols. 1 and 2).

Since Chi et al. ('396) in view of Segal ('494) discloses the same composition and the same processing, a structure that is without the formation of cracks and fractures would be expected.

Allowable Subject Matter

Claims 15 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 4th paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

In regards to claim 15, the prior art does not disclose or adequately suggest a nickel-platinum alloy superior in workability consisting of 20 weight percent platinum with the alloy having a purity having a purity of 99.99% with a Vickers hardness of 40 to 90 wherein the nickel-platinum alloy is a melted and cast ingot structure rollable without cracks and fractures.

In regards to claim 17, the prior art does not disclose or adequately suggest a nickel-platinum alloy sputter target superior in workability consisting of 20 weight percent platinum with the alloy having a purity having a purity of 99.99% with a Vickers

hardness of 40 to 90 wherein the nickel-platinum alloy is a melted, cast and rolled target structure without cracks and fractures.

Response to Arguments

Applicant's arguments filed 27 June 2011 have been fully considered but they are not persuasive.

First, the Applicant primarily argues that in Chi et al. ('396), the targets for co-sputtering are referred to as "pure", meaning that they are not alloys; this indicates nothing with respect to unavoidable impurities; these "pure" targets could have a purity of 1N (90 weight percent) and still be considered pure from the standpoint that they are not alloys; and a 100% purity does not exist for such materials and Chi et al. ('396) fails to enable such a material.

In response, the Examiner notes that while "the purity" of a substance implies the presence of more than one material, "pure" indicates only one material would be present and no impurities since the material would not be mixed with any other substance. A "pure" material would not have a purity of 90 weight percent. Combining the pure nickel sputtering target and the pure platinum sputtering target would be obvious to one having ordinary skill in the art. It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art. MPEP 2144.06 I.

Second, the Applicant primarily argues that Vilensky ('497) acknowledges the brittleness associated with a conventional nickel-platinum alloy and if such a hard ingot is rolled, such plastic working will cause cracks at the grain boundary. The Applicant further argues that it is not correct to state that this invention is merely directed to purity since the hardness of the alloy is important and the ability to reduce the hardness of such an alloy in the manner required by the claims was not known by one of ordinary skill in the art at the time the invention was made.

In response, the Examiner notes that while Vilensky ('497) does acknowledge an additional element (manganese) would be added in order to prevent cracking and weakening of the metal, the Examiner notes that Vilensky ('497) has not been applied to claim 16 which recites "...without formation of cracks and fractures". However, Vilensky ('497) has been applied to claim 1 since this limitation is not present in instant claim 1. Additionally, the Examiner notes that while purity may be important to establishing a composition that lacks cracking, this feature is not present in instant claim 1 (which Vilensky ('497) is applied to) and merely purifying a prior art product would not be sufficient to patentably distinguish from that prior art product. MPEP 2144.04 (VII).

Third, Applicant's additional argument(s) have been considered, but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571)272-5938.

The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jessee Roe/
Primary Examiner, Art Unit 1733